

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

1 1. A method for producing an RNA-loaded antigen
2 presenting cell (APC), said method comprising:
3 introducing into an antigen-presenting cell *in vitro*
4 RNA selected from the group consisting of
5 (i) tumor-derived RNA comprising tumor-specific RNA
6 and
7 (ii) pathogen-derived RNA comprising pathogen-
8 specific RNA, thereby producing an RNA-loaded APC.

1 2. The method of claim 1, wherein said APC is a
2 dendritic cell.

1 3. The method of claim 1, wherein said APC is a
2 macrophage.

1 4. The method of claim 1, wherein said APC is an
2 endothelial cell.

1 5. The method of claim 1, wherein said APC is an
2 artificially generated APC.

1 6. The method of claim 1, wherein said RNA is
2 tumor-derived RNA that comprises poly A⁺ RNA.

1 7. The method of claim 1, wherein said RNA is
2 tumor-derived RNA that comprises cytoplasmic RNA.

1 8. The method of claim 1, wherein said RNA
2 corresponds to a tumor antigen.

1 9. The method of claim 1, wherein said RNA
2 corresponds to a pathogen antigen.

1 10. The method of claim 1, wherein said RNA
2 corresponds to an epitope.

1 11. The method of claim 1, wherein said RNA is
2 tumor-specific RNA.

1 12. The method of claim 1, wherein the RNA is
2 introduced into the APC by contacting the APC with the RNA
3 in the presence of a cationic lipid.

1 13. The method of claim 1, wherein said RNA is
2 tumor-derived RNA that is provided as a fractionated tumor
3 extract that is fractionated with respect to a non-RNA
4 component of the tumor.

1 14. An RNA-loaded APC produced by the method of
2 claim 1.

1 15. A method for treating or preventing tumor
2 formation in a patient, said method comprising
3 administering to the patient a therapeutically
4 effective amount of the RNA-loaded APC of claim 14, wherein
5 tumor-derived RNA is introduced into said APC.

1 16. The method of claim 15, wherein the tumor-
2 derived RNA is derived from said patient.

1 17. The method of claim 15, wherein the tumor-
2 derived RNA is derived from a donor patient.

1 18. A method for treating or preventing a pathogen
2 infection in a patient, said method comprising
3 administering to the patient a therapeutically
4 effective amount of the RNA-loaded APC of claim 14, wherein
5 pathogen-derived RNA is introduced into said APC.

1 19. A method for producing a cytotoxic T lymphocyte
2 (CTL), said method comprising:
3 providing a T lymphocyte;
4 contacting said T lymphocyte *in vitro* with the RNA-
5 loaded APC of claim 14; and
6 maintaining said T lymphocyte under conditions
7 conducive to CTL proliferation, thereby producing a CTL.

1 20. A CTL produced by according to the method of
2 claim 19.

1 21. A method for treating or preventing tumor
2 formation in a patient, said method comprising administering
3 to the patient a therapeutically effective amount of the CTL
4 of claim 20, wherein said APC is loaded with tumor-derived
5 RNA.

1 22. The method of claim 21, wherein the T
2 lymphocyte is derived from said patient.

1 23. The method of claim 21, wherein the T
2 lymphocyte is derived from a donor patient.

1 24. The method of claim 21, wherein the tumor-
2 derived RNA is derived from a tumor of said patient.

1 25. The method of claim 21, wherein the tumor-
2 derived RNA is derived from a donor patient.

1 26. A method for treating or preventing pathogen
2 infection in a patient, said method comprising administering
3 to the patient a therapeutically effective amount of the CTL
4 of claim 15, wherein said APC is loaded with pathogen-
5 derived RNA.

1 27. The method of claim 1, wherein the tumor-
2 derived RNA is derived from a melanoma.

1 28. The method of claim 1, wherein the tumor-
2 derived RNA is derived from a bladder tumor.

1 29. The method of claim 1, wherein the tumor-
2 derived RNA is derived from a tumor selected from the group
3 consisting of breast cancer tumors, colon cancer tumors,
4 prostate cancer tumors, and ovarian cancer tumors.

1 30. The method of claim 1, wherein said pathogen-
2 derived RNA is derived from a virus.

1 31. The method of claim 30, wherein said virus is
2 selected from the group consisting of Hepatitis viruses,
3 human immunodeficiency viruses, influenza viruses,
4 poliomyelitis viruses, measles viruses, herpes viruses,
5 mumps viruses, and rubella viruses.

1 32. The method of claim 1, wherein said pathogen-
2 derived RNA is derived from a bacterium.

1 33. The method of claim 32, wherein said bacterium
2 is selected from the group consisting of *Salmonella*,
3 *Shigella*, and *Enterobacter*.

1 34. The method of claim 1, wherein said pathogen-
2 derived RNA is derived from an intracellular pathogen.

1 35. The method of claim 1, wherein said RNA is
2 isolated from a cell.

1 36. The method of claim 1, wherein said RNA is
2 prepared by PCR amplification and *in vitro* transcription.

1 37. The method of claim 1, wherein said RNA is
2 tumor-derived RNA that comprises nuclear RNA.

- 1 38. The method of claim 1 wherein said RNA
- 2 corresponds to a minigene.

Aug 1987
B3 *[Signature]*

0985264-060704
FD/090-4925/860